
PERMIT CRITERIA MANUAL

FOR PROJECTS WITHIN CORAL SPRINGS IMPROVEMENT DISTRICT NORTH SPRINGS IMPROVEMENT DISTRICT

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Introduction

The purpose of this document is to set forth the information, procedure and requirements of preparing an application and obtaining permits granting permission to construct a water management system; or permission to connect, place structures in or across or make use of lands of the Coral Springs Improvement District, Sunshine Water Control District and North Springs Improvement District (hereafter collectively referred to as "District").

All permit applications are reviewed by the appropriate District engineer and must be approved by the Board of Supervisors of the appropriate District. The approval is granted in the form of a permit with special conditions.

Generally, two different types of permits are issued:

The first type is a surface water management permit which authorizes the construction and operation of a water management system for projects less than 40 acres in the following Districts:

**Coral Springs Improvement District
North Springs Improvement District**

This permit is issued in lieu of obtaining a surface water management permit from the South Florida Water Management District (SFWMD). All projects greater than 40 acres and those located in **Sunshine Water Control District** must apply to SFWMD for this type of permit.

The second type of permit is to authorize work within any District rights-of-way or easements. Where applicable this permit will be issued singly or jointly with a surface water management permit. This type of permit is issued by all three District.

**Coral Springs Improvement District
North Springs Improvement District
Sunshine Water Control District**

Issuance of a District permit does not relieve the permittee from any obligation to obtain appropriate Federal, State, Regional and Local approvals/permits. Each permit does not convey any property rights or privileges other than those specified in the permit; it does not authorize any injury to private property or invasion of private rights, nor does it waive the governing requirements of any other agency or authority. It simply expresses the assent of the District insofar as concerns the public's interest and protection under the General Drainage Law.

Policy of the District In Considering and Issuing Permits

1. No Right-of-Way (R/W) permits will be granted for any use of a District's works that will adversely affect such works; or interfere with or impose hardships upon the District's operations, maintenance or construction activities; or degrade the quality of District waters.
2. No R/W permit will be granted for any use of District's works when granting such would be inconsistent with the water control plan of each respective District.
3. A surface water management (SWM) permit will not be granted for any proposed surface water management system which is inconsistent with the South Florida Water Management District Surface Water Management Permit issued for each respective District
4. Each District reserves the right to require any applicant to obtain approval/permit from SFWMD for projects less than 40 acres.
5. The Districts reserve the right to:
 - (a) Change, regulate and limit discharges into or withdrawals from District works, and
 - (b) Amend or change any of its policies, practices, procedures or regulations, and such action shall not constitute any claim for damages nor become the basis of a legal suit by any permittee.
6. The District shall required an inspection report every five years from permit issuance date certified by a Florida professional registered engineer that the stormwater management system is operating as permitted by the District. In addition the entity will state in the report what operational maintenance has been performed on the system. Reports shall be submitted on form: Stormwater Inspection report on (See Exhibit 7).

Permits

A PERMIT, as issued by each District, is simply an acknowledgement that the proposed surface water management system or the specific use of Public land, as requested by the Applicant, is proper and conforms to the requirements and standards of the District. Permits convey no property rights nor any other rights or privileges other than those specified in the permit.

The issuance of permits can be expedited if contact with the District is made prior to the submission of a formal application. The design water surface elevations and other pertinent data will be furnished upon request for any desired location. Applications which are based on the correct design data from the District are processed with a minimum of delay.

Hereafter, Works is defined to include (but not limited to) all water management facilities, lakes, canals, outfall structures, outfall pipes, exfiltration trenches, easements, district right of way and canal interconnect piping.

Temporary Permits

Temporary permits become effective upon the date of approval by the District and are valid for the period of time stated on the permit, unless cancelled by the District. A temporary permit may be cancelled upon 30 days written notice to the permittee.

In the event that the requirements or interests of the District indicate that the removal or alteration of any structure or works installed by the permittee is necessary, 60 days written notice must be given. Should the permittee fail or refuse to alter, repair or remove the structure or work when so notified, the District may alter, repair or remove the structure or work and the costs incident thereto must be paid by the permittee. This notification by the District does not constitute a cancellation of the permit but simply advises the permittee of the required alterations to or relocation of works or structures under District permit.

Both the 30-day notice of cancellation, and the 60-day notice of removal or alteration of works, which the District may give a permittee, are further subject to immediate cancellation, removal or alteration by the District in emergency situations where the continued exercise of a permit might endanger lives or property. In such emergency situations the District will notify permittees (if possible) of the action required. Failure of permittees to carry out such emergency action will be considered cause for immediate cancellation of permit, or removal or alterations to structures or works for which the permit was issued.

Temporary Permits will be granted only upon specific approval of the Board of Supervisors of each respective District. Temporary Permits will only be granted for

installations wherein the cancellation of the same on short notice would institute a manifest hardship or injustice. Temporary Permits will be granted only for major installations, such as bridges; road; water, gas or sewer lines; other public utilities or similar installations which require a degree of permanency before the same can be installed. The terms of all semi-permanent permits will be specially drafted to meet the situation involved for the type of installation for which said permit is requested. Cancellation rights shall be governed by the terms of said permit.

Emergency Permit

A letter of authorization for emergency use of the District's facilities or for permission to initiate construction of a SWM system can be obtained prior to the issuance of a permit if the delay of normal permit procedure would cause extreme hardship or endanger lives or property.

Modifications or Relocations of Works Under Permit

Modifications to existing works under permit can be made after submitting to the District a letter of request to amend the existing permit, in triplicate, accompanied by adequate drawings, also in triplicate. Approval or denial of the requested change will be granted in the form of a letter of acceptance.

Transfer of a Permit

By separate agreement, the holder of a District permit, may allow a third party the use of his permitted facility, but such agreement should be made known to this District. Permits are not assignable without the specific consent of this District. A valid permit, upon request, can be transferred from one owner to a new owner. The request must be made in letter form by the new owner with the consent of the previous owner shown therein.

Obligation of Permittee

1. To abide by the terms and conditions of the permit issued to you.
2. To maintain any works or structures, title to which remain with you in a good and safe condition.
3. To hold and save the appropriate District, District Managers, district consultants and its successors harmless from any and all damages, claims, or liabilities which may arise by reason of the construction, operation, maintenance or use of the work or structure involved in the permit.
4. To allow inspection at any time by the District of any works or structure established upon permit.
5. To prevent the discharge of debris and/or aquatic weeds such as hyacinths and naiad into any District works via your permitted facility.
6. To maintain the water quality of all waters discharging into District works.
7. To conform with any alterations of or amendments to this manual that may be deemed necessary by any District.
8. To make any immediate changes or repairs as requested by District personnel to insure the safe operation of the District's waterways during storm events.
9. Upon completion of the construction specified in the PERMIT, the District requires 3 sets of "As-built" plan and electronic media when available for the referenced project embossed with the following statement; signed and sealed by an engineer registered in Florida :

Such Certification shall be in substantially the following form :

" I, _____, a Florida registered Engineer, whose License Number is _____, certify that I have reviewed the as-built plans which accompany this certification and that the as-built plans are in conformance with the plans which had been originally submitted to the District for approval and for which the PERMIT was issued. The changes or modifications to the plans as originally approved are as follows: _____ (If no changes or modifications state NONE)."

10. To provide Inspection report every five years from permit issuance date certified by a Florida professional registered engineer that the stormwater management system is operating as permitted by the District . In addition the entity will state in the report what operational maintenance has been performed on the system. Reports shall be submitted on form, Stormwater Inspection report (See Exhibit 7).

Application for Permit

Requests of Application for a Permit forms (See Exhibit 1) can be made in person, by letter, or by telephone directly to:

- **District Offices** (Specify the District)
10300 N. W. 11th Manor
Coral Springs, Florida 33071
Tel # 954-753-0380

Please include the Following:

- Four (4) sets of Plans are required, One print will be returned with the approved permit.
- Two (2) sets of calculations signed and sealed by a Florida registered professional engineer and any other supporting documents (Survey, Soil test, Percolation test, etc.).
- Permit application fees shall be in accordance with the current District fee schedule for an initial review and permits for projects requiring District approval. In addition the cost of outside consulting services (including but not limited to engineering services, accounting services and legal services) at the rates charged by such consultants and any other costs and expenses incurred by the District in order to review applications shall be paid by the applicant.

Instructions for Application

Instructions for preparing an application are as follows:

- Item (1)** - Simply state what use is intended, i.e., bridge crossing, culvert connection, beautification of right-of-way, surface water management system construction, etc.
- Item (2)** - Self-explanatory (information can be obtained from your deed or tax notice).
- Item (3)** - Refers to work involved (i.e., District Canal Name).
- Item (4)** - The person or entity responsible for maintenance of facilities after construction is completed.
- Item (5)** - The applicant may be an agent of the owner (i.e., contractor or engineer) to which correspondence will be directed during the application process. A letter of authorization from the owner may be required by the District.
- Item (6)** - Of minor importance when not affecting water control. If a bridge is to provide access to owner's property – so state. This information must be completed for culvert and/or pump installations giving capacities as well as acreage being drained or irrigated.

Preparation of the Drawing or Plans

Four (4) sets of prints are required, one print will be returned with the approved permit. Drawings should be to scale or properly and adequately dimensioned. To be acceptable, a drawing or sketch will show a location plan, a plan view and profile view. Drawings for a surface water management system and a drainage outfall connection should consist of complete paving and drainage plans along with two (2) sets of calculations signed and sealed by a Florida registered professional engineer.

The location plan should locate the installation or construction by referencing it to a section line, a road, or some obvious and permanent landmark.

For activities within the District rights-of-way or easements, the plan and cross section or elevation should clearly portray the construction in its relationship to the channel and/or right-of-way. Certain elevations must be designated to facilitate processing of the application. These are: Canal bottom elevation, water surface elevation and ground elevation expressed in National Geodetic Vertical Datum (NGVD). The elevation of the low member of a bridge span must be shown. For overhead wire crossings and in the case of water or gas lines, low member elevation must also be indicated on the drawings.

Standard Conditions (All permits issued will contained the following standard conditions)

1. In the event the DISTRICT wishes to obtain the ingress or egress to its property, easement or right of way affected by the permit issued pursuant to this application for any lawful District purpose, including but not limited to maintenance of any lake, canal or related water management infrastructure, the removal, demolition and reconstruction, if any, of the proposed work or structure permitted hereunder shall be at the sole expense of the owner or the owner's successors or assigns.
2. PERMITTEE, by acceptance of the permit, covenants and agrees that the DISTRICT, District Managers, district consultants and its successors shall be promptly indemnified, defended, protected, exonerated, and saved harmless by the Permittee from and against all expenses, liabilities, claims, demands, and proceedings incurred by or imposed on said District in connection with any claim, proceeding, demand, administrative hearing, suit, appellate proceeding, or other activity; including unfounded or "nuisance" claims, in which the District may become involved, or any settlement thereof, arising out of any operations under this permit, including use of canal water for irrigation purposes, damage to landscaping, paint damage to automobiles, buildings, or other structures, and any property damage or personal injuries, fatal or non-fatal, of any kind or character.
3. PERMITTEE agrees that during the course of construction, prior to obtaining a Certificate of Occupancy on any structure constructed thereon, no builder debris will be placed into the waterways of the District.

For this purpose PERMITTEE has submitted a check in the amount of Two-Thousand Five Hundred Dollars (\$2,500.00) which PERMITTEE agrees to forfeit if debris is found to have been placed into the District's waterways; said determination to be at the sole discretion of the District and is acknowledged by PERMITTEE to represent both actual and punitive damages for violating the provisions of this permit and, further, the provisions of Chapter 298, Florida Statutes.

If construction of the facilities called for in this permit have not been completed, an additional Two Thousand Five Hundred Dollars (\$2,500.00) will be submitted by PERMITTEE to cover future occurrences of discharging builder debris into the District's waterways.

4. The applicant shall submit, in accordance with the policies of the District's "Stormwater Inspection Reports" every five years from the date of permit issuance, and shall comply with all re-inspection procedures required under the District's policies.

Permit Requirements

I. Right-of-Way Permits

A. Bridge Crossing

Bridges constructed over the canals within the boundaries of the District require crossings having a 15-foot horizontal clearance between center bents, a minimum vertical clearance of 6 feet between low member and normal water elevation or 1 foot above the 100-year, 3-day storm elevation, whichever is greater (See Table I). The District reserves the right to determine which of the two elevations will be the control in establishment of the required vertical clearance.

Bents and bridge piers are required to be so located that they will not catch debris or interfere with the normal flow of water. Pilings should be placed parallel to the major axis of the canal and protected in order that future cleanout under the bridge can be accomplished. Details of fencing at crossings, headwalls, wingwalls and other special items, will vary from site to site depending on soil conditions and other factors.

B. Culvert Connections

The connection of pumps or channels to District canals or levees is usually accomplished by means of culverts.

Culverts size, diameter and type vary with the requirements for each connection. However, in every instance a maintenance road or berm of not less than 12 feet top width must be provided with a slope no greater than 4:1. The diameter of the culvert must be such that the purpose of the installation will be adequately and properly served under maximum conditions. The culvert crown shall be 2 feet below basin control elevation (See Table II) wherever possible, 1 foot minimum. (See Exhibit 5).

Installation made through or under District levees shall be of approved design and installations made under major levees shall have slope protection at each end.

Any installation above water shall include necessary erosion control measures such as slope walls. Four inch slope paving is the preferred method of erosion protection. Slope paving will be required in all cases where the installation is in a sandy soil condition. Should any connections prove inadequate to serve the needs of the installation with resulting washout or shoaling, said damages to the District works will be repaired promptly by the permittee at no cost to the District.

All trenches within the District right-of-way shall be backfilled and compacted to a density of 100% as determined by AASHTO T-99.

Silt screens or turbidity curtains shall be installed upstream and downstream of the proposed construction. Screens or curtains shall remain in place at all times until construction is complete.

C. Drainage Pump Connections

Such uses of District works usually involve a permanent, temporary or emergency installation. Since no permanent pumping stations are allowed on District rights-of-way, a culvert connection is the usual means by which a pump connection is made. The standards applicable to culvert connections are the criteria used in such installations.

The settling basin or forebay also should be located clear of District rights-of-way.

Under no circumstances will the discharging of aquatic weeds (such as hyacinths, naiads) or any debris be tolerated. Every installation must incorporate adequate erosion and anti-shoaling measures in the design and construction.

D. Open Channel Connections

On District canals where no maintenance road is required or no levee exists or is planned, an open channel directly through the right-of-way may be made. Swale drainage directly into a District canal is not allowed unless extenuating circumstances eliminate the use of other means of connection.

If, in the opinion of the Engineer, there is danger of short circuiting the water control system or other adverse effects, a water control structure will be required.

Any provisions needed to protect the District channel and berm from erosion or shoaling shall be made at the time of excavation.

Under no conditions, directly or indirectly, will the discharging of aquatic weeds, raw sewage, garbage, or debris of any nature, into a District channel be tolerated. Such action will constitute grounds for the cancellation of the permit. Any discharge of water with a quality less than any State agency water quality standard will constitute grounds for the cancellation of the permit.

E. Right-of-Way Beautification/Grading

Grass, low plantings and the construction of removable fences may be permissible within the District's right-of-way and easement, with the understanding that such improvements are made at the risk and peril of the permittee and are subject to prompt removal by permittee at his expense upon notification by the District. Upon failure of the permittee to remove such improvements, when so requested, the District may remove or otherwise destroy the same without liability or responsibility.

In certain areas, individual homeowners may desire to re-grade an existing canal bank (for reasons of esthetics, sight lines, etc.). Re-grading may be permissible using the following constraints:

1. 4 to 1 maximum slopes on the maintenance side of a canal down to the water line with a minimum of 15 feet between the water line and the right-of-way line.
2. 4 to 1 maximum slope on non-maintenance side of the canal.
3. The minimum design dimensions of the canal can not be decreased.
4. It is required, to continue the 4:1 side slope down two feet below the normal water elevation.
5. In areas where the District Canal is to be enlarged (for borrow material, etc.), a minimum of 12 feet of water depth is required.

In areas where the canal bank slope is altered, the permittee must acknowledge that during flood events canal waters may rise up and beyond the canal right-of-way line.

A typical minimum section is shown in Exhibit 2.

F. Utility Crossing

1. Overhead Crossings

Overhead power and telephone line crossings must have a minimum vertical clearance of forty 40 feet between low wire elevation and elevation of the berm or natural ground, whichever is greater.

When such installations cross District levees, a minimum clearance of 25 feet between low wire elevation and top of the levee will be required.

2. Overwater Crossings

When such construction is supported on pilings, the required clearance (both horizontal and vertical) for bridge crossings are in effect.

Should installation be made adjacent to an existing bridge, piling will be aligned with the bridge piling, so that a minimum of obstruction to the flow of water by accumulation of debris is assured.

3. Subaqueous Crossings

Subaqueous crossings of any nature, such as cables, water or fuel (gas) lines, etc., shall be laid to a predetermined depth and cross-section that will provide for two (2) foot cover below the design bottom elevation. This depth and section will be furnished by the District for each crossing. Should conditions warrant the laying of a cable on the bottom of the channel, such is done so at the permittee's risk.

G. Seawalls, Bulkheads

Construction of sea walls, or bulkheads, not detrimental to the water control program, may be authorized under permit. Each application will be judged on its merits and must meet the requirements of the specific location.

The applicant should contact each District prior to permit application for the local requirements in the area. Exhibit 6 should be consulted in order that the drawings submitted with the application will show all pertinent data required for processing.

Note: Under no circumstances should it be assumed that Exhibit 6 sets forth the type of construction or dimensions suitable for sea walls or bulkheads. The purpose of the exhibit is to indicate the pertinent details and dimensions needed to properly evaluate an application.

H. Fences

Fencing on District rights-of-way that would prohibit continuous access is not allowed; however, under certain conditions fencing upon the right-of-way and parallel to it can be permitted. This type of fencing is usually encountered in the range land areas. Each District should be contacted prior to the planning of any fencing on its rights-of-way.

If a fence is permitted a 12-foot gate or removable section of fence will be required. A key for each lock shall be forwarded to the District for use in emergency or maintenance situations.

I. Irrigation Withdrawal Facilities

Installation of supply lines within District rights-of-way for withdrawal of water from District canals for irrigation purposes may be authorized under permit. Supply lines shall be installed at a minimum elevation of 0.5 foot below the basin control elevation. Permittees may be notified at any time that withdrawals must be curtailed immediately and shall not resume until further notification from the District.

Pumps are not allowed to be located on District rights-of-way.

The permittee shall notify the District at least 60 days prior to intended operation of irrigation facilities. The following information shall be supplied to the District:

1. Permittee's name and address
2. Date withdrawal will begin
3. Source of supply
4. Estimated quantity to be withdrawn per day
5. Land use being served
6. Location of points of withdrawal
7. Number and size of pumps

Permits for withdrawals must first apply to the SFWMD for a Consumptive Use Permit under FAC Chapter 40E-2.

II. Surface Water Management Permits

A. General Information

1. Projects 40 Acres or Less

The following criteria is to be used for design of water management facilities for projects which cover 40 acres or less within the Coral Springs Improvement District and North Springs Improvement District.

Surface Water Management permit applications will be reviewed according to these criteria and permits issued in lieu of applying to the South Florida Water Management District for a General Surface Water Management Permit under Chapter 40E-40 of the Rules of the South Florida Water Management District. All of the criteria stated in Chapter 40E-40 must be complied with as part of this permitting process.

The District review and permitting process for projects does not obviate the need for each project to obtain approval from the City of Coral Springs Engineering Department, city of Parkland and any other applicable regulatory agencies. The District's review will be limited to the water management aspects of each project. In general, this process will not include the review of secondary drainage system design or other engineering aspects of the project, which will normally be reviewed by the City.

All criteria outlined in Chapter 40E-40 of the Rules of the South Florida Water Management District shall be enforced as part of the District permit process.

2. Projects Greater Than 40 Acres

Projects greater than 40 acres are not exempt from the surface water management permit requirements specified in Chapter 40E-40 of the Rules of the South Florida Water Management District.

Projects greater than 40 acres are also required to apply for a Right-of-Way permit to connect to, place structures in or across works or otherwise make use of the works or lands of any District.

B. Criteria For Design of Water Management Facilities 40 Acres or Less

1. Site Location

The application must indicate the location, zoning, land use and point of discharge into works of the District.

The location is to be sketched on the appropriate map included with this manual as Exhibits 8,9 & 10. The applicant will provide a cross section of the District canal at each point of connection. The section will start at the top of bank and progress across the canal at no greater than 10 foot intervals. If the canal section indicates adequate room, the culvert shall be installed with a crown 2 feet below normal water, 1 foot minimum (See exhibit 5).

2. Water Quantity

A. Flood Protection

Building floor shall be above the 100-year flood elevations, listed for the appropriate District Basin on Table II. The 100 year, 3 day storm event shall be considered in determining elevations for certain projects that may have diking.

B. Allowable Discharge

Coral Springs Improvement District and North Springs Improvement District operate their surface water management systems under the SFWMD permits as stated in Section II.B.3.C. of this manual. The **Sunshine Water Control District** operates its surface water management system under **SFWMD Permit No. 06-00162-S** issued April 13, 1978.

These SFWMD permits allow each District to pump a certain quantity of discharge into the C-14 or Hillsboro Canal basins.

Individual projects are not restricted to a specified allowable discharge. Each water management system is to be designed to act as part of the overall basin system. This is accomplished by designing the outfall structure for free discharge. During a design storm event the discharge from each project will be controlled or limited by the available capacity of the receiving District canal.

Discharge control structures for individual projects (when required for retention/detention) will provide a mechanism for returning the on-site water surface elevation to the basin control elevation (See Table II). The invert elevation for this mechanism will be set 0.5 feet below the basin control elevation listed in Table II. This is to ensure a more equitable

distribution of water during drought conditions and to allow for system draw down prior to a major storm event.

Discharge structures must satisfy the requirements of this manual pertaining to Right-of-Way permits.

Before discharging to District facilities, stormwater shall be directed through a pollution retardant structure in the last catch basin of each storm drainage line.

C. Minimum Drainage

1. Commercial and industrial projects to be subdivided for sale are required to have installed by the permittee, as a minimum,
 - a) the required water quality system for 1 inch of runoff detention or 0.5 inch of runoff retention from the total developed site.
 - b) a stormwater collection and conveyance system to interconnect a retention/detention system with the outfall, with access points to the system available to each individual lot or tract.
2. Commercial Industrial projects to remain as single owner projects may be permitted, with the approval of local government, to lesser degrees of stormwater protection for the parking lots than required by District standards. In no case however will the lesser standards be applicable to water quality, off-site discharge or building floor protection. Projects permitted in such manner will be special conditioned, as notice to the Permittee and local government, that a substandard design has been permitted.

3. Water Quality

A. State Standards

Projects shall be designed so that discharges will meet State water quality standards, as set forth in Florida Administrative Code, Chapter 17-3.

B. Retention/Detention Criteria

Retention and/or detention in the overall system, including swales, lakes, canals, greenways, etc., shall be provided for as required by the current SFWMD "Basis of Review". Exhibit 3 can be used as a guide for determining required volumes.

The requirements of this section will apply to all projects except those within the Coral Springs Improvement District - West Basin and the

North Springs Improvement District, which have provided the necessary volumes within the District waterway system.

C. Pretreatment criteria

Projects which meet either of the following classifications shall be required to provide at least one half inch of dry detention or retention pretreatment as part of the required retention/detention as stated in item 3, b. above.

1. Commercial or industrial zoned projects
2. All other projects having greater than 40% impervious area and lying within a Broward County Wellfield Protection Ordinance contour for Zone 3.

The **Coral Springs Improvement District** operates its surface water management system under **SFWMD Permit No. 06-00119-S** issued August 11, 1977. The pump operation schedule for drainage of the west basin provides for detention of the first one inch of runoff over the entire basin. Therefore, the detention requirement has been satisfied for this basin.

Likewise, the **North Springs Improvement District** operates its surface water management system under **SFWMD Permit No. 06-00073 S** issued July 9, 1987. The pump station's operation schedule provides for the detention requirement in the west basin while the S-1, S-2 and S-3 structures regulate the water levels to provide for the same requirement in the east basin. Waterway areas will have to be constructed at the **ratio of 0.171 acres** of water for each acre of development in the West Basin.

D. Underground Exfiltration Systems

If an underground exfiltration system is to be used in meeting retention/detention requirements, refer to SFWMD "Basis of Review" Vol. IV, current edition.

4. Construction

A. Discharge structures

1. All design discharges shall be made through structural discharge facilities. Earth berms shall be used only to disperse sheet flows from or to ditches, swales, etc. served by discharge structures.
2. Discharge structures shall include a "baffle" system to encourage discharge from the center of the water column rather than the top or bottom.

3. The control structure overflow design shall be based on tailwater control using the 10-year design elevations listed in Table II.

B. Control Devices/Bleed-Down Mechanisms for Detention Systems

1. Gravity control devices shall normally be sized based on a design discharge 0.5 inch of the detention volume in one day. The devices should incorporate dimensions no smaller than 6 square inches of cross sectional area or 2 inches minimum dimension, or a circular orifice with a diameter not less than 3 inches.
2. Gravity control devices shall be of a “V” shaped configuration to increase detention time during minor events.

C. Dry Retention/Detention areas

1. Dry retention/detention areas shall have mechanisms for returning the groundwater level in the area to the control elevation.
2. The design of dry retention/detention areas shall incorporate considerations for regular maintenance and vegetation harvesting procedures.

D. Exfiltration systems

1. Pipe diameter – 12-inch minimum
2. Trench width – 3-foot minimum
3. Rock in trench must be enclosed in filter material, at least on the top and sides.
4. Maintenance sumps in inlets.

E. Water Bodies – (See Exhibit 2) water bodies shall meet the following criteria:

1. Dimensional criteria (as measured at or from the control elevation) shall be defined by the SFWMD “Basis of Review” Vol. IV, Section 7.4.

F. Impervious Areas

runoff shall be discharged from impervious surfaces through retention areas, detention devices, filtering and cleansing devices, and/or subjected to some type of Best Management Practice (BMP) prior to discharge from the project site. For projects which include substantial paved areas, such as shopping centers, large highway intersections with frequent stopped traffic, and high density developments, provisions shall be made for the removal of oil, grease and sediment from storm water discharges.

5. Design Information

A. Surface Storage

Individual projects must demonstrate that surface storage is provided in accordance with Table II, surface Water Management Data.

Storage requirements at the elevations specified are derived from the existing SFWMD permitted stage versus storage relationships for each respective drainage basin. Each project must provide its prorated share of the overall storage for each basin to insure that flood plain encroachment will not occur.

The storage requirements shown in Table II are based on the amount of open area (total area - District canal and lake R/W - building area) on each project. The volume of storage required is obtained by multiplying the appropriate ratio shown by the acres of open areas on the project. See the Example calculations on page 20

For projects which do not meet the minimum surface storage requirements in Table II, the District may make a subjective determination of potential impacts based on all information provided by the applicant.

Any circumstances which might mitigate adverse impacts to District facilities may be considered.

Such circumstances can be, but are not limited to; surrounding natural or developed elevations, District road elevations adjacent to the project, percentage of impervious area and building coverage on the site.

B. Minimum Road Crown and Finished Floor Elevations

Road crown elevations will be set no lower than the corresponding 10-year elevations indicated in Table II.

Finished floor elevations will be set no lower than the elevations indicated in Table II.

Note: The City of Coral Springs and City of Parkland may require finished floor elevations higher than those indicated in Table II.

Example Calculations

Sample Project Data

Basin = Coral Springs Improvement District East Basin

Total Area = 10.0 AC

Paved (Impervious) Area = 4.0 AC

Building Area = 1.5 AC

CSID Canal Right-of-Way = 0.5 AC

Pervious Area = 4.5 AC

1. Determine Detention Volume Required:

Total Impervious = Paved Area + Building Area

Total Impervious = 4.0 + 1.5 = 5.5 AC

% Impervious = 5.5/10.0 = 55%

Use Figure II as appropriate:

Retention = 0.69 in/ Ac = 0.57 AF

Dry Detention = 1.03 in/ Ac = 0.86 AF

Wet Detention = 1.38 in/ Ac = 1.15 AF

2. Determine 100 YR Storage Requirement From Table II:

Storage Ratio = 0.81 AF/ Ac

Open Area = Total - CSID R/W - Building

Open Area = 10.0 - 0.5 - 1.5 = 8.0 Ac.

Storage Required = 8.00(0.81) = 6.5 AF at elevation 12.0 ft. NGVD.

C. Rainfall Data

1. Rainfall distribution shall be derived using the following:

<u>Time (hours)</u>	<u>Cumulative Percentage of Peak One Day Rainfall</u>	
0	0	
24	14.6	
48	35.9	
58	57.2	
59	62.8	
59.5	67.8	100% One Day Rainfall
59.75	82.8	
60	101.5	
60.5	108.8	
61	112.6	
62	117.7	
72	135.9	

2. Peak day 24 hour rainfall amounts for each District are as follows:

	<u>10-Year (inches)</u>	<u>100-Year (inches)</u>
CSID	9.5	14.2
NSID	9.5	14.2
SWCD	9.5	14.2

D. Ground Storage – the Soil Conservation Service/SFWMD method shall be used for design:

<u>Depth to Water Table</u>	<u>Cumulative Water Storage</u>
1'	0.5"
2'	1.9"
3'	5.0"
4'	8.2"

Groundwater storage beneath impervious surfaces can not be considered for design nor can ground storage be considered below 4-foot depths.

E. Infiltration and Percolation

1. Ground surface – Ground surface infiltration will be reviewed on the basis of commonly accepted procedures such as those of Soil Conservation Service (see U.S. Department of Agriculture, Soil Conservation Service Technical Paper No. 149, “A Method for Estimating Volume and Rate of Runoff in Small Watersheds” (1973), and U. S. Department of Agriculture, Soil Conservation Service Technical Release No. 55, “Urban Hydrology for Small Watersheds” (1975); or Rational Method (see Florida State Road Department, “Drainage Manual” (2nd Edition, rev. 1978)); or standard Civil Engineering textbooks.
2. Subsurface – subsurface exfiltration will be reviewed only on the basis of representative or actual test data submitted by the Applicant. Tests shall be consistent as to elevation, location, soils, etc. with the system design to which the test data will be applied.

F. Runoff – the usual methods of computation are as follows:

1. Rainfall minus losses and storage.
2. Soil conservation Service (see U.S. Department of Agriculture, Soil Conservation Service, “Natural Engineering Handbook, Section 4, Hydrology” - 1972), with extra attention to hydrologic accounting of water table conditions.
3. Rational method, for systems serving projects of less than 10 acres total land area (see Florida State Department of Transportation, “Drainage Manual” (2nd Edition, revised 1978); or standard Civil Engineering texts.

Table I

TABLE I
Bridge Crossing Criteria

Basin	Basin Control Elevation	100-Year Flood Elevation	Minimum Low Chord Elevation
<u>NSID</u>			
East	9.0'	12.6'	15.0'
West	7.0'	12.1'	13.0'
<u>CSID</u>			
East	6.5'	11.6'	12.6'
West	6.5'	11.1'	12.5'
<u>SWCD</u>			
East	7.5'	12.2'	13.5'
West	7.5'	11.5'	13.5'

Note: 1. All elevations referenced to NGVD.

2. Basin Control Elevations may vary Seasonal.

Table II

TABLE II
Surface Water Management data for NSID, CSID, SWCD

Drainage Basin	Basin Control Elevation	10-Year Flood Elevation	100-Year Flood Elevation	Minimum Finished Floor Elevation	Required Minimum Stg. @ 10-Year Elevation (AF/ac)*	Required Minimum Stg. @ 100-Year Elevation (AF/ac)*
<u>NSID</u>						
East Basin	9.0'	11.7'	12.5'	13.0'	0.15	0.79
West Basin	7.0'	10.7'	12.2'	12.2'	0.19	0.85
<u>CSID</u>						
East Basin	6.5'	10.8'	11.6'	12.0'	0.10	0.81
West Basin	6.5'	10.0'	11.1'	11.5'	0.05	0.31
<u>SWCD</u>						
East Basin	7.5'	11.1'	12.5'	12.5'	0.02	0.68
West Basin	7.5'	11.0'	11.5'	11.5'	0.53	1.05

*(AF/ac) Storage required per acre of open area.
 NOTE: All elevations referenced to NGVD.

Exhibit 1

APPLICATION FOR PERMIT

TO: BOARD OF SUPERVISORS

_____ DISTRICT

10300 N.W. 11th Manor

Coral Springs, FL 33071

PERMIT TYPE:

(Check one or both)

RIGHT-OF-WAY

SURFACE WATER MANAGEMENT

1. PROPOSED USE OF DISTRICT FACILITY: _____

2. LOCATION OF WORK: _____

Subdivision _____ Lot No. _____ Block No. _____
Section: _____ Township: _____ Range: _____
3. DISTRICT WORKS INVOLVED IN PROPOSED CONSTRUCTION OR USE: _____
4. NAME, ADDRESS, PHONE AND FAX OF OWNER OF PROPOSED WORK OR STRUCTURE:

5. NAME, ADDRESS, PHONE AND FAX OF APPLICANT OTHER THAN OWNER (If any):

6. AREA PROPOSED TO BE SERVED: (Give property description sufficient for identification, including size in acres, and **attaching survey or property sketch**).

7. This application, including sketches, drawings or plans and specifications attached, contains a full and complete description of the work proposed or use desired of the above described facilities of the District and for which permit is herewith applied. It shall be part of any permit that may be issued. It is agreed that all work or the use of the District's facilities involved will be in accordance with the permit to be granted and with the Permit Criteria Manual heretofore adopted by the District, which have been examined and are understood by the applicant and as the same may be hereafter from time to time amended, changed or revised and which (it is further understood) shall be incorporated in reference as a part of any permit which may be granted.

STANDARD CONDITIONS ARE AS FOLLOWS:

5. In the event the DISTRICT wishes to obtain the ingress or egress to its property, easement or right of way affected by the permit issued pursuant to this application for any lawful District purpose, including but not limited to maintenance of any lake, canal or related water management infrastructure, the removal, demolition and reconstruction, if any, of the proposed work or structure permitted hereunder shall be at the sole expense of the owner or the owner's successors or assigns.
6. PERMITTEE, by acceptance of the permit, covenants and agrees that the DISTRICT, District Managers, district consultants and its successors shall be promptly indemnified, defended, protected, exonerated, and saved harmless by the Permittee from and against all expenses, liabilities, claims, demands, and proceedings incurred by or imposed on said District in connection with any claim, proceeding, demand, administrative hearing, suit, appellate proceeding, or other activity; including unfounded or "nuisance" claims, in which the District may become involved, or any settlement thereof, arising out of any operations under this permit, including use of canal water for irrigation purposes, damage to landscaping, paint damage to automobiles, buildings, or other structures, and any property damage or personal injuries, fatal or non-fatal, of any kind or character.
7. PERMITTEE agrees that during the course of construction, prior to obtaining a Certificate of Occupancy on any structure constructed thereon, no builder debris will be placed into the waterways of the District.

For this purpose PERMITTEE has submitted a check in the amount of Two-Thousand Five Hundred Dollars (\$2,500.00) which PERMITTEE agrees to forfeit if debris is found to have been placed into the District's waterways; said determination to be at the sole discretion of the District and is acknowledged by PERMITTEE to represent both actual and punitive damages for violating the provisions of this permit and, further, the provisions of Chapter 298, Florida Statutes.

If construction of the facilities called for in this permit have not been completed, an additional Two Thousand Five Hundred Dollars (\$2,500.00) will be submitted by PERMITTEE to cover future occurrences of discharging builder debris into the District's waterways.

8. The applicant shall submit, in accordance with the policies of the District's "Stormwater Inspection Reports" every five years from the date of permit issuance, and shall comply with all re-inspection procedures required under the District's policies.

SPECIAL CONDITIONS WILL BE ADDED WHEN APPLICABLE:

Submitted this _____ day of _____, 20

Company and/or Owner: _____

By: _____

Name: _____

Title: _____

BOARD OF SUPERVISORS
Reviewed and approved by Board meeting held

Exhibit 2

Exhibit 3

Exhibit 4

Exhibit 5

Exhibit 6

Exhibit 7

Exhibit 8

Exhibit 9

Exhibit 10

Exhibit 11

EXHIBIT 11 District Permit Schedule Fee

PERMIT

	Surface Water Management	Right-of-Way	Trash Bond Required
<u>NSID</u>	\$ 350.00	N/A	\$2,500.00
<u>CSID</u>	\$ 350.00	N/A	\$2,500.00
<u>PTWCD</u>	N/A	N/A	\$2,500.00

PERMIT RENEWAL

	Surface Water Management	Right-of-Way
<u>NSID</u>	\$ 200.00	N/A
<u>CSID</u>	\$ 200.00	N/A
<u>PTWCD</u>	\$200.00	N/A

Note :

1. Permits fee amount, represents the initial review for projects requiring District approval not to exceed Three (3) hours. In addition, the cost of outside consulting services (including but not limited to engineering services, accounting services and legal services) at the rates charged by such consultants and any other costs and expenses incurred by the District in order to review applications shall be paid by the applicant.
2. The renewal fee needs to be submitted at the time of certification. Please note that failure to comply with this requirements may result in warnings followed by violations fee in the amount of \$100.00.